Amendments to the Specification

1   <u>Beginning on line 15 of page 6</u>, insert the following paragraph:

2   Figure 4 is a schematic showing a decoder apparatus of the present invention.

1   <u>Beginning on line 19 of page 10</u>, please insert the following:

2   Figure 4 is a schematic showing a decoder in a digital communications systems. The
3 decoder is for decoding transmitted data that has been generated by encoding a sequence of
4 information data with a convolutional encoder that generates convolutional codes based on an
5 input sequence of information data, the encoder characterized by a constant length K and a rate
6 k/n. Decoder 300 includes decoder memory 302 and first storage means 304. First storage
7 means 304 is for storing a first encoder state corresponding to a first time step. Decoder 300 also
8 includes traceback means 306, second storage means 308, partial traceback means 310,
9 comparing means 312 and designating means 314. Traceback means 306 are means for
10 performing a first traceback through a plurality of time steps beginning at the first time step and
11 to determine a first input bit corresponding to an encoder state transition from a last time step of
12 the first traceback to a second to last time step of the first traceback. Second storage means 308
13 store in the decoder memory a first possible input data bit corresponding to a transition from an
14 encoder state at a third time step within the first traceback, to an encoder state at a fourth time
15 step within the first traceback, when neither the third nor fourth time steps are the last time step.
16 Partial traceback means 310 perform a second traceback beginning at a second time step and
17 encompassing the first time step, to determine a second encoder at the first time step. Comparing
18 means 312 compare the first encoder state with the second encoder state. Designating means 314
19 designate the first possible input data bit as a decoded data bit corresponding to a transition from
20 the encoder state at the third time step to the encoder state at the fourth time step, if the first
21 encoder state is equal to the second encoder state.

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